

SUBSTITUTE SPECIFICATION FOR PCT/NL00//00309
CONTINUATION APPLICATION

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Title: A VEHICLE FOR DETERMINING THE CLIMATE

RELATED APPLICATION:

The Application is a continuation of International Application No. PCT/NL00/00309, filed May 10, 2000.

FIELD OF THE INVENTION:

The invention relates to an unmanned vehicle which is adapted to be used in a stable, such as a cowshed.

BACKGROUND OF THE INVENTION:

Known unmanned vehicles are usually employed for cleaning the stable floor.

SUMMARY OF THE INVENTION:

It is an objective of the invention to provide a multifunctional, unmanned vehicle.

According to the invention, this is achieved by providing an unmanned vehicle with detection means for determining the climate in a stable. In this manner it is also possible to determine, in the absence of operators, whether the climate changes in the stable.

In accordance with an inventive feature, the detection means comprises a temperature sensor or an air velocity sensor or a gas sensor or an air humidity sensor or a light intensity sensor or an air pressure sensor or any combination of these sensors.

For the purposes of determining the climate in a stable very accurately, detection sensors are disposed on the vehicle so as to be able to determine different altitudes in the stable. This is accomplished by the detection means being placed at different heights on the vehicle or on a carrier which is adjustable in height relative to the vehicle. According to another inventive feature, the unmanned vehicle has a data processing unit for storing data from the sensors. According to yet another aspect of the invention, the signals emitted by the sensors are registered or processed, or both, by means of a processing unit or a control unit, or both. When the climate in the stable reaches a predetermined hostile or threatening state, a signal means activates an alarm thereby informing a supervisor. According to another inventive feature, the unmanned vehicle comprises a transmitter unit. Data from the sensors or the control signals, or both, are transmitted to a registration or control unit, or both, with the aid of said transmitter unit.

In accordance with another aspect of the invention, the unmanned vehicle comprises a navigation means for directing the unmanned vehicle through the stable.

According to yet another inventive feature, the unmanned vehicle comprises an animal identification system or a camera device or a radar device, or a combination of said system and devices. This makes it possible to observe the behavior of the animals and to inform a supervisor with the aid of said signal means. It is also possible to identify a specific animal's behavior.

According to a further inventive feature, data collected by the unmanned vehicle are stored in a data management system.

In accordance with another inventive feature, the quantities of feed or the composition of the feed, or both, to be supplied to the animals is altered when the climate in the stable changes.

According to again another inventive feature, the quantity of feed supplied to the animals is increased when the temperature in the stable falls below approximately 4°C.

BRIEF DESCRIPTION OF THE DRAWINGS:

The invention will now be explained in further detail with reference to the accompanying drawings.

Figure 1 is a plan view of a stable with an unmanned vehicle accommodated therein, which vehicle is provided with detection means according to the invention; and

Figure 2 is a side elevational view of the unmanned vehicle shown in Figure 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS:

Figure 1 is a plan view of a stable 1 provided with a milking robot 2 for automatically milking animals and an unmanned vehicle 3 which is provided with detection means 4 for determining the climate in stable 1. As shown in Figure 2, a part of detection means 4 is disposed on a carrier 5 which is mounted on a telescopic carrier. When telescopic carrier 5 is completely closed, the platform on which detection means 4 is disposed will be located in a recess 6 in unmanned vehicle 3. Near the lower side of unmanned vehicle 3 there are also disposed detection means 4. Detection means 4 depicted in Figure 2 comprises a temperature sensor 7, an air velocity sensor 8, a gas sensor 9, an air humidity sensor 10, a light intensity sensor 11 and an air pressure sensor 12.

Although I have disclosed the preferred embodiments of my invention, it is to be understood that it is capable of other adaptations and modifications within the scope of the following claims: